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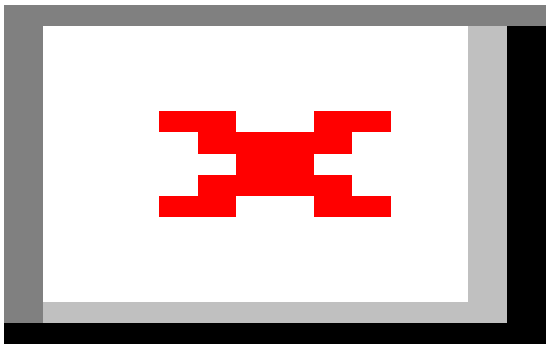
Sandia National Laboratories, California Hazardous Materials Management Annual Program Report for Calendar Year 2005



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Sandia National Laboratories, California Hazardous Materials Management Annual Program Report for Calendar Year 2005

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ABSTRACT

The annual program report provides detailed information about all aspects of the SNL/CA Hazardous Materials Management Program for a given calendar year. It functions as supporting documentation to the *SNL/CA Environmental Management System Program Manual*. The 2005 program report describes the activities undertaken during the past year, and activities planned in future years to implement the Hazardous Materials Management Program, one of six programs that supports environmental management at SNL/CA.

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1 Program Description

1.1 INTRODUCTION

The Hazardous Materials Management (HMM) Program is one of six programs under the Environmental Operations Department at Sandia National Laboratories, California (SNL/CA). The program applies to all projects and activities involving hazardous materials, excluding explosives and radioactive materials, at SNL/CA. The program is part of the corporate Hazardous Materials Management Program know as the "Chemical Information System Program" at Sandia National Laboratories/New Mexico (SNL/NM) managed by the Industrial Hygiene & Instrumentation Department (10???).

SNL/CA is responsible for tracking hazardous materials (chemical and biological hazardous materials), providing Material Safety Data Sheets (MSDS) and for regulatory compliance reporting according to a variety of hazardous material regulations. The principal regulations for hazardous materials tracking are the Emergency Planning Community Right-to-Know Act (EPCRA) and the California Right-to-Know regulations. The regulations, the Hazard Communication/Lab Standard of the Occupational Safety and Health Administration (OSHA) are also key to the HMM Program. The HMM Program is also responsible for supporting hazardous material safety and information requirements for a variety of Integrated Enabling Services (IES) programs primarily the Industrial Hygiene, Waste Management, Fire Protection, Air Quality, Emergency Management, Environmental Monitoring and Pollution Prevention programs.

The principal program tool is the Chemical Information System (CIS) that was completely redeveloped in a multi-year effort and put into production in December 2004. The system contains two key elements: the MSDS library and the hazardous material container tracking database that is readily accessible to all Members of the Sandia Workforce.

1.2 Material Safety Data Sheet (MSDS) Library

The MSDS library in CIS contains almost 90,000 MSDSs which is comprised of commercial MSDS documents and data supplemented with vendor specific MSDS images and data. The MSDS library is available on Sandia's Internal Web 24 hours a day, seven days a week with new MSDSs being added as available or by request. The CIS database stores MSDSs for a period of 75 years according to a DOE epidemiological record destruction moritorium requirement. Manufacturer-specific MSDSs are maintained for products if their MSDS is not available in the commercial library. JIT vendors with contractual chemical tracking requirements are required to provide MSDSs to the HMM Team. Hazardous Material users also send MSDSs that accompany their chemical shipments to the HMM Team as outlined in MN471001, ES&H Manual, Section 6U, "Chemical Barcoding and Inventory." In addition, the HMM Program team requests MSDSs from manufacturers as needed or utilizes commercially available MSDS library references. MSDSs for new chemical mixtures can be authored in-house by request. The HMM Team processes MSDSs according to internal program procedures.

The weblink for Sandia Restricted Network (SRN) access to the MSDS library is:

http://cis.sandia.gov
The weblink for external/off site SRN access is:
https://webprod.sandia.gov/CIS/svRemoteStartup

1.3 Hazardous Material Container Tracking Database

The CIS database tracks individual hazardous material containers with the use of unique hazardous material inventory barcodes. There are over 35,000 barcoded containers at SNL/CA distributed site-wide found in nearly every organization. Each individual hazardous material container, as defined by ES&H Manual Attachment 6U-1 (http://www-irn.sandia.gov/corpdata/esh-manuals/mn471001/s06ua01.htm), is barcoded and all relevant hazardous material inventory information is collected and entered in the CIS database. Information collected includes hazardous material or product name, vendor, storage location, quantity, hazardous material owner/requester information, and container storage information for regulatory reporting purposes.

This electronic inventory allows hazardous material users and IES professionals to assess and manage workplace hazards. CIS data is also key in completing annual federal and state regulatory reporting requirements. Easy access to this inventory facilitates quick availability searches, sharing of chemicals, source reduction, as well as minimizing hazardous material purchases and waste disposal expenses.

Hazardous Material tracking in CIS is based on the premise that if the baseline inventory is known and all incoming and outgoing hazardous materials are tracked, the inventory will be up-to-date at any given time. All SNL sites complete an annual wall-to-wall hazardous materials inventory reconciliation with the goal of improving database accuracy 1% each year. The 2004 reconciliation percent was 92 % up from 90 % in 2003.

Just-In-Time (JIT) gas products vendor, Matheson-TriGas barcodes all incoming gas products and forwards the hazardous materials inventory information to the HMM team electronically. Hazardous Materials Management staff and/or line hazardous material users are responsible for barcoding all other incoming hazardous materials (non-JIT purchases). Inventory information is then forwarded to the Hazardous Materials Management team using the corporate Chemical Inventory Incoming form (Word File). Hazardous materials users are responsible for storage location changes if a chemical is used, disposed, or transferred to a new location. See MN471001, *ES&H Manual*, Section 6U, "Chemical Barcoding and Inventory," for responsibilities and procedures for chemical users. Hazardous materials tracking requirements are part of the contract requirements in the JIT vendor contract. The Hazardous Materials Management Support Team processes inventory information according to internal Hazardous Materials Management procedures.

2 Program Drivers

2.1 General Compliance

HMM Program drivers include laws, regulations, orders, directives, and other corporate and site-specific requirements and are listed and summarized in Table 1.

The HMM Program uses a variety of sources to stay current on applicable compliance drivers. The primary source used is the Sandia corporate notification service provided by the legal staff. Sandia legal monitors DOE requirements and federal, state, and local government publications for regulatory issues applicable to SNL operations. These notifications are then reviewed for applicability to SNL/CA operations. The HMM Program also receives additional sources of information on regulatory changes include direct communication with DOE and regulating agencies, and periodic review of agency web sites. New requirements are incorporated into program activities and communicated to the site through electronic notifications, the ES&H Interdisciplinary Team process, self-assessments, targeted presentations and program documents.

During 2004, no significant changes occurred in compliance drivers applicable to HMM Program responsibilities.

The HMM Program is audited occasionally by DOE, Sandia Corporation, and Lockheed Martin, Sandia's parent company. Under California law, Alameda County Department of Environmental Health is required to audit the program every three years.

The HMM Program Lead communicates with DOE/NNSA/SSO (SSO) counterparts regularly to keep them informed of issues and trends of importance to the program. HMM Program staff at SNL/CA work side-by-side with the SNL/NM counterparts and DOE/NNSA/SSO to resolve concerns and to develop effective approaches to program implementation. The HMM Program and SSO maintain an open and cooperative relationship.

Table 1 Compliance Drivers for the Hazardous Material Management Program

Driver	Summary	Regulating Authority
Federal Laws and Regulations[a]		
40 CFR 300 - 372 Emergency Planning Community Right-to-Know (EPCRA)	The regulations provide for Emergency Planning, Emergency Notification, Community Right-to-Know Reporting and Toxic Chemical Release Reporting for hazardous chemicals at a facility.	EPA
29 CFR 1910.1200 Hazard Communication Standard (Worker Right-to-Know Rule)	OSHA's Hazard Communication Standard (HCS) is designed to ensure that information about these hazards and associated protective measures is disseminated to workers and employers.	OSHA

29 CFR 1910.1450 Lab Standard	The Standard outlines the strategy for laboratories to maintain employee exposures at or below the permissible exposure limits specified for the hazardous chemicals in 29 CFR part 1910, subpart Z.	OSHA
40 CFR 68 Risk Management Plan	Section 112(r) of the Clean Air Act focuses on the efforts to prevent the accidental release of chemicals and limit the consequenses of such releases.	
Executive Orders (EO)		
Executive Order 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements	The order directs federal agencies and their facilities to comply with the provisions of EPCRA and the Pollution Prevention Act	DOE as responsible federal agency for SNL facilities
DOE Directives		
Order 450.1, Environmental Protection Program / 2003	Outlines the basic strategy for environmental compliance at DOE facilities, requires DOE facilities to implement an EMS that addresses protection of site resources and long-term stewardship of these resources	DOE
		DOE
California Laws and Regulations[a]		
State of California, Hazardous Materials Release Response Plans and Inventory Law (AB 2185).	California Health and Safety Code requires businesses to provide information on hazardous substances	Alameda County Department of Environmental Health

[a] The effective date for federal and state regulations represents the most recent revision.

2.2 Requirements Source Documents

40 CFR 300-372 Emergency Planning and Community Right-to-Know Act (EPCRA)

The Emergency Planning and Community Right-to-Know Act (EPCRA), enacted on October 17, 1986, represents a significant first step toward a major federal role in areas previously regulated by state and local governments. EPCRA was enacted by Congress as a stand-alone provision, Title III, of the Superfund Amendments and Reauthorization Act of 1986 (SARA).

Title III was passed in response to concerns regarding the environmental and safety hazards posed by the storage and handling of toxic chemicals. These concerns were triggered by the disaster in Bhopal, India, in which more than 2,000 people suffered death or serious injury from the accidental release of methyl isocyanate. To reduce the likelihood of such a disaster in the United States, Congress imposed requirements on both states and regulated facilities. Facilities

must notify the local emergency planning districts regarding materials stored at and released from sites.

EPCRA contains three subtitles. Subtitle A, Emergency Planning and Notification, establishes mechanisms to enable states and communities to prepare to respond to unplanned releases of hazardous substances.

Subtitle B, Reporting Requirements, contains three distinct reporting provisions concerning two different groups of chemical substances. The first two sets of reports require submission of inventory-related data on hazardous chemicals [i.e., those substances for which a Material Safety Data Sheet (MSDS) is mandated under the hazard communication regulations of the Occupational Safety and Health Administration]. The third reporting provision requires annual reporting to EPA and the state in which the reporting facility is located on environmental releases of listed toxic chemicals manufactured, processed, or otherwise used at the facility in excess of specified threshold quantities.

Subtitle C, General Provisions, contains a variety of provisions, including, but not limited to, civil, criminal, and administrative penalties for violations of the statute's reporting requirements; enforcement actions that can be brought by citizens, states, and emergency planning and response entities; and restrictions on an owner's or operator's rights to make trade secrecy claims in the reports required by EPCRA.

Appendix A of 40 CFR 355 defines extremely hazardous substances. Any DOE facility that manages any such substances in quantities exceeding the Threshold Planning Quantities noted in the appendix must comply with EPCRA.

Under 40 CFR 355 facilities must notify the emergency response commission that they are subject to these requirements. The facilities must notify the local emergency planning unit of releases exceeding a Reportable Quantity (RQ) of Extremely Hazardous Substances, as defined under Title III, and Hazardous Substances, as defined under CERCLA. In addition, the facilities must report their chemical inventories and provide MSDSs to the local emergency planning organizations as outlined in 40 CFR 370.

29 CFR 1910.1200 Hazard Communication Standard.

Chemicals pose a wide range of health hazards (such as irritation, sensitization, and carcinogenicity) and physical hazards (such as flammability, corrosion, and reactivity). OSHA’s Hazard Communication Standard (HCS) is designed to ensure that information about these hazards and associated protective measures is disseminated to workers and employers. This is accomplished by requiring chemical manufacturers and importers to evaluate the hazards of the chemicals they produce or import, and to provide information about them through labels on shipped containers and more detailed information sheets called material safety data sheets (MSDSs). All employers with hazardous chemicals in their workplaces must prepare and implement a written hazard communication program, and must ensure that all containers are

labeled, employees are provided access to MSDSs, and an effective training program is conducted for all potentially exposed employees.

29 CFR 1910.1450 Occupational Exposure to Hazardous Chemicals in Laboratories (Lab Standard).

The standard entitled "Occupational Exposure to Hazardous Chemicals in Laboratories" (§ 1910.1450; the "Standard") applies to laboratories that use hazardous chemicals in accordance with the Standard's definitions for "laboratory use of hazardous chemicals" (2) and "laboratory scale." (3) The Standard requires these laboratories to maintain employee exposures at or below the permissible exposure limits specified for the hazardous chemicals in 29 CFR part 1910, subpart Z. At SNL/CA this is implemented by the Industrial Hygiene Program in Section 6E of the ES&H Manual "Laboratory Standard - Chemical Hygiene Plan" (CHP) that describes: Standard operating procedures for using hazardous chemicals; hazard-control techniques; equipment-reliability measures; employee information-and-training programs; conditions under which the employer must approve operations, procedures, and activities before implementation; and medical consultations and examinations. The CHP also designates personnel responsible for implementing the CHP, and specifies the procedures used to provide additional protection to employees exposed to particularly hazardous chemicals.

Other information-collection requirements of the Standard include: Documenting exposure-monitoring results; notifying employees in writing of these results; presenting specified information and training to employees; establishing a medical-surveillance program for overexposed employees; providing required information to the physician; obtaining the physician's written opinion; using proper respiratory equipment; and establishing, maintaining, transferring, and disclosing exposure-monitoring and medical records. These collection-of-information requirements, including the CHP, control employee overexposure to hazardous laboratory chemicals, thereby preventing serious illnesses and death among employees exposed to such chemicals.

Executive Order 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements

Executive Order 12856 published August 6, 1993, 58 FR 41981, directs federal agencies and their facilities to comply with the provisions of EPCRA. Thus, all DOE facilities, including national laboratories, research facilities, power administrations, and petroleum reserves, are potential reporters under EPCRA, if they meet any reporting thresholds.

State of California, Hazardous Materials Release Response Plans and Inventory Law (AB 2185).

The California legislature passed Assembly Bill 2185 in 1987, incorporating the provisions of SARA Title III into a state program. The legislature delegated implementation of emergency planning and community-right-to-know programs to the state Office of Emergency Services (OES). OES has in turn authorized local government agencies to implement the program. The Alameda County Department of Environmental Health is responsible for AB 2185 oversight at Sandia/CA.

AB 2185 has been codified in state law as Chapter 6.95 of the California Health and Safety Code. The chapter requires that Sandia/CA complete an annual inventory or "business plan" listing specified hazardous materials.

What Chemicals Need to Be Listed On The Inventory? Section 25501.1 of the California Health and Safety Code requires businesses to provide information on all hazardous substances on the federal Environmental Protection Agency (EPA) list at Title 49, Parts 172 and 173 of the Code of Federal Regulations. This roster essentially duplicates the class of materials for which a Material Safety Data Sheet (MSDS) must be produced. Thus, any chemical for which an MSDS had been produced is considered reportable under Chapter 6.95. Additionally, state law requires that businesses list materials classified as hazardous wastes on the annual inventory.

2.3 Implementing Documents

SNL, MN471001, *ES&H Manual*, Section 6U, "Chemical Barcoding and Inventory."

SNL, PG470196, *SNL/CA Industrial Hygiene Program*.

2.4 Related Documents

SNL, *Chemical Safety Vulnerability Review Management Response Plan*, May 27, 1994.

SNL, GN470094, *Handling Chemicals at SNL/CA*.

SNL, MN471001, *ES&H Manual*, Section 6D, "Hazard Communication."

SNL, MN471001, *ES&H Manual*, Section 6E, "Laboratory Standard."

DOE-HDBK-1139/1-2000 November 2000 Change Notice No.1 September 2004 "Chemical Management Volume 1 of 3"

DOE-HDBK-1139/2-2002 July 2003 "Chemical Management Volume 2 of 3"

DOE-HDBK-1139/3-2005 April 2005 "Chemical Management Volume 3 of 3"

3 Operational Controls

3.1 HMM Program Operational Controls

The HMM program uses technical work documents, administrative and engineered controls, and specialized equipment as operational controls. Table 2 lists the technical work documents applicable to the program. They include the corporate ES&H manual and a preliminary hazard screening document.

The Summer reconciliation is another operational control implemented to improve the quality of the inventory data and capture information about hazardous materials not encountered in the primary receiving process. Additional information on the reconciliation is found in section 7.2

3.2 Additional Operational Controls

Additional controls are owned by the Corporate and Strategic Purchasing Department at SNL/NM and the Logistics and Procurement Department at SNL/CA. These controls include a Just-in-Time purchasing contract with Matheson-TriGas for gas products, a site exemption to procure hazardous materials using a corporate procurement card (ProCard) and a BioReceiving process to better manage biohazardous materials as they are ordered, received, barcoded and delivered to the customer.

In the early 1990's, an effort to improve the procurement process for low cost items, including hazardous materials, was introduced at SNL/CA. This process utilized the corporate procurement credit card that allowed select site personnel to directly order hazardous materials from suppliers. While this greatly streamlined the purchasing process of the low cost items, it relaxed a number of operational controls including the Industrial Hygiene review of all hazardous materials purchase orders. A post receiving approval process was implemented through automatic e-mail notifications to Industrial Hygiene and other interested parties. This has provided adequate notification of all items newly received on-site and entered into the CIS database.

Table 2 Technical Work Documents Applicable to the HMM Program

Title	Current Version
ES&H Manual Section 6U Chemical barcoding and Inventory	Update pending
PHS SNL0A00433-007 SNL/CA CIS Chemical Inventory	2004

4 Documents and Reports Produced

Table 3 HMM Program Documents and Reports

Document	Due Date	Frequency of Submittal	Distribution	Purpose
EPCRA 302, 311 and 312 Reporting	March 1	Annual	DOE/NNSA/SSO, EPA, Alameda County and LLNL Fire Department	Regulatory requirement
EPCRA 313 Toxic Release Inventory (TRI) Form R	July 1	Annual	DOE/NNSA/SSO and EPA	Regulatory requirement
California Hazardous Material Business Plan	March 1	Annual	DOE/NNSA/SSO and Alameda County	Regulatory requirement
Chemicals New To Room Report	NA	Monthly	Line/IH/Medical/HMMP	IES/Line Operations
Chemicals Over 50 Gallons Per Storage Room Report	NA	Quarterly	HMMP	IES Operations
Cyanide Report	NA	Quarterly	IH/Medical/HMMP	IES Operations
EOC Emergency Response Report	NA	Monthly	Emergency Management/HMMP	IES Operations
SNL/CA Air Quality Chemical Received Report	NA	Monthly	Air Quality/HMMP	IES Operations
SNL/CA Bay Area Toxic Air Chemical Received Report	NA	Monthly	Air Quality/HMMP	IES Operations
SNL/CA Deuterium Inventory Report	NA	Monthly	SNM Management/ HMMP	IES Operations
SNL/CA Deuterium RECEIVED Report	NA	Monthly	SNM Management/ HMMP	IES Operations
SNL/CA Maintenance Adhesives Disposal Report	NA	Monthly	Air Quality/HMMP	IES Operations
SNL/CA Peroxide Report	NA	Monthly	HMMP	IES Operations
SNL/CA Solvent Disposal Report	NA	Monthly	Air Quality/HMMP	IES Operations
SNL/CA Weekly Disposal Report	NA	Weekly	HMMP	IES Operations
SNL/CA Weekly Purchase Report	NA	Weekly	IH/Security/HMMP	IES Operations

5 Approved Job Descriptions, Qualifications and Job Specific Training

5.1 Program Staffing

The Hazardous Materials Management Program staff positions consist of the Program Lead, an Environmental Operations Contract Technician and two part-time student interns. A description and associated responsibilities for each position are described below. Current assignments to these positions are found in Table…….

5.2 Program Lead

The Hazardous Material Management Program Lead is responsible for managing and overseeing operations, administering permits, reporting requirements and developing special program activities as needed. The program lead also directs the activities of the Hazardous Materials Management technician who in turn directs the activities of the Student Interns in the program. Primary duties include interpretation of technical/scientific requirements in federal and state laws, regulations, and orders as they apply to hazardous materials management practices; advises management, makes recommendations. Guides the development of hazardous materials management tools (Chemical Information System) and procedures to ensure that these practices are in compliance with the appropriate statutes and regulations, and that regulatory reporting requirements are met. The Program Lead also supports other IES programs on hazardous materials management related activities. In support of these primary duties, the Program Lead sees that Line organizations have knowledge and the tools to effectively manage their hazardous materials. Additional activities include general hazardous material consulation for ES&H programs and the IES Interdiscplinary Team (IDT). The Program Lead also supports the Emergency Mangement Hazards Screening/Hazards Assessment Team and serves as the "Chemical Hazards Supervisor" for the Emergency Management Program.

5.3 Hazardous Materials Management Technician

The Hazardous Materials Management Technician efficiently collects and manages hazardous material information for the line, regulators, DOE, and ES&H customers. This technician provides assistance to customers, prepares regulatory compliance reports, performs data, Line and Program quality assurance and manages the Material Safety Data Sheets (MSDS). The Hazardous Materials Management technician also serves as the lead in the annual chemical reconciliation, supervises student interns, and manages day-to-day operations for the Hazardous Materials Management Program. An additional duty includes serving as a back-up for Emergency Spill Response Team in the Waste Management Program.

5.4 Student Intern

The student intern job has three main components: hazardous material inventory reconciliation and data collection and data entry. During the lab and other field work, students work under the direct supervision of the Hazardous Materials Management Technician. During reconcilation

they visit every hazardous material storage location and scan the barcodes on the hazardous materials containers, add barcodes and collect all relevant hazardous material data. The computer data entry portion involves entering data collected from the field and entered into the CIS. A additional component of the job entails answering calls from customers, entering information from MSDSs, locating MSDSs, and analyzing and manipulating data.

Required Training/Competency:

Student Interns must have a positive attitude and good oral and written communication skills. Prior experience in other service organizations is desired but not required. Interns must have experience working in a chemical laboratory environment and must be an independent and self-motivated worker. Additional required skills include general computer experience and high school chemistry coursework. Must have a GPA greater than 3.2.

Table 4 HMMP Program Training Matrix

Training Requirement	Training Method	Program Lead	HMM Technician	Student Intern
Advanced degree in chemistry or related physical/biological science	Graduate degree	O	O	N
Bachelor's degree in chemistry or related physical/biological science	Bachelor's degree	R	O	N
Associates of Arts/Science degree in chemistry or related physical/biological science	AA/AS degree	O	R	N
Hazardous Materials Manager Certification	HMM Certificate program	O	O	N
40-hr HAZWOPPER certified	Off-site classroom or On-line	R	R	N
FRP106 FIRE EXTINGUISHER TRAINING HANDS-ON	SNL classroom	R	R	N
MED105CA ADULT CPR AND AUTOMATED EXTERNAL DEFIBRILLATOR FOR NON-MED	SNL classroom	R	R	N
MED113 BLOODBORNE PATHOGENS TRAINING FOR NON-MEDICAL PERSONNEL	SNL classroom	R	R	N
RSP215 AIR-PURIFYING RESPIRATORY PROTECTION	SNL classroom	R	R	N

R = required, O = Optional, N = Not Required

6 Performance Measures

6.1 Regulatory Reporting

Regulatory reporting will be completed as prescribed in Table 5. HMM Program Documents and Reports.

6.2 Annual Hazardous Material Inventory Reconciliation "Found" rate

The annual hazardous material inventory reconciliation "found" rate performance measure is greater than or equal to 90%. Figure 1. illustrates the "found" rate performance over the last decade. Figure 2. Illustrates the total site container count.

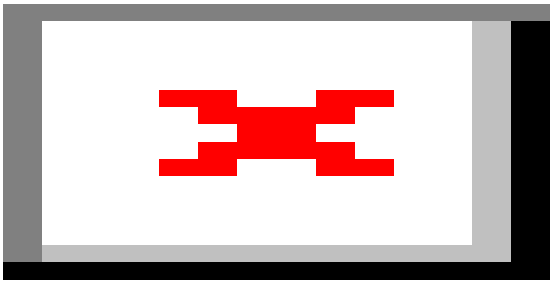

Figure 1. Annual Hazardous Material Inventory Reconciliation "Found" Rate.

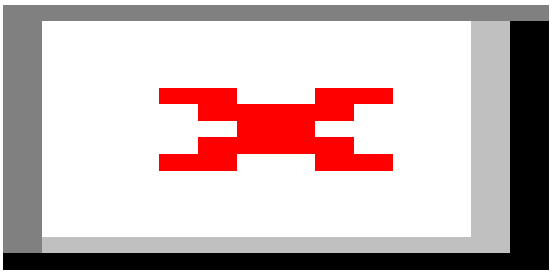

Figure 2. Annual Hazardous Material Inventory Container Count

7 Quality Assurance

7.1 Data and Reporting Quality Assurance

The HMM Program applies the following program-specific elements to assure quality is maintained in data collection, analyses, and reporting.

- Online and hardcopy validation tools, screens and forms ensure that a standard process is followed for collection and management of inventory data.
- All data input is reviewed for accuracy after the input is complete.
- All regulatory lists are periodically reviewed and updated.
- Internal reports and documents are subjected to internal review and technical editing before finalizing.
- Published reports are reviewed by DOE/SSO, applicable SNL/CA staff and technical editors before finalizing.

7.2 Annual Hazardous Material Inventory Reconciliation

Summer reconciliation is a quality assurance process where a team of student interns is led by the HMM technician.

- The reconciliation uses portable barcode readers to find all barcoded containers on-site.
- Reconciliation results are e-mailed to the location owners for verification.
- Location ownership is verified with the annual reconciliation.

- A bulk metal checklist form for each location onsite and will be completed during the 2005 annual reconciliation to determine if the location includes an operation that use and/or stores beryllium, beryllium oxides, or beryllium alloys.

7.3 Additional Assurance Activities

- Requested ad hoc reconciliations/transfers of hazardous material inventory are performed to assure data quality.
- Ad Hoc e-mail notification is provided to inform the resigning, retiring, or terminated employee's manager that that person was or has been responsible for specific locations and/or hazardous materials. This ensures that the ownership of inventory is up-to-date.

8 Program Assessments

8.1 Corporate CIS assessment

The HMM Program participates in a routine schedule for program assessment with the corporate CIS program at SNL/NM. The last formal program assessment was completed in 2003. Beginning in 2005 as part of EMS implementation, the HMM Program will complete a program self-assessment and a line implementation assessment. The line implementation assessment will be completed by September 30, 2005. The line implementation assessment will include a review of CIS Location Inspection Checklists and the inventory containers statistics developed for the inventory reduction campaign. Ad Hoc line implementation assessments are also completed as part of the Line self-assessment program implemented by the ES&H coordinators. The focus of the HMM program in these assessments is: properly labeled hazardous material containers and properly stored hazardous materials. If any issues are found during the Line self-assessment these can result in a finding issue through the site self-assessment tracking system.

The 2005 program self-assessment will be completed by December 31, 2005. The program self-assessment will include a review of all technical work documents, processes, and web pages. Program self-assessments will be documented on the HMM Program Document Review Form (Attachment A). The results of the program assessments for 2005 will be reported in the 2006 version of this program description.

9 Accomplishments

9.1 System Redevelopment

During 2004, the Hazardous Materials Management Program completed the multi-year redevelopment of the CIS and went into production corporate-wide on December 13, 2004. The redevelopment of the CIS software addressed many needs for SNL. The software was developed

and is supported by Corporate Computing organizations and is therefore well integrated into SNL ES&H and other general corporate business systems. Overall performance was greatly improved in all aspects (application speed, feature set, usability, customizability and supportability). Many new system tools are available that will allow SNL to improve the customer ease-of-use, accuracy of the hazardous materials inventory, improve the efficiency of regulatory reporting and improve the availability of required Material Safety Data Sheet information.

9.2 Inventory Reconciliation

The Hazardous Materials Management Program performs an annual hazardous material inventory reconciliation during the Summer months. In 2004, the HMM program team achieved the highest "found rate" of 92% in the ten years the team has been doing an annual hazardous material inventory reconciliation. This exceeds the corporate performance target (90%).

9.3 Inventory Reduction

An effort to reduce the hazardous material inventory was begun in the Fall of 2004 to help address part of the corporate self-assessment concerns about site "Housekeeping". A 10% reduction (~3900) of the 38,807 barcoded hazardous material containers by 10/1/2005 was set as the goal. All centers have been asked to focus their reduction efforts on containers greater than 10 years old inventory with NFPA Health 3 or 4 ratings. This effort will reduce the oldest and most toxic materials.

9.4 Emergency Management - Hazards Survey

Completed with the Emergency Management Program the "Hazards Survey for SNL/CA" (August 2004) including a successful on-site review by the DOE Office of Assurance (OA-30).

10 Trends

10.1 Opportunities

The Hazardous Material Management Program's greatest opportunity came from the implementation of the modernized CIS software. In 12/2004 the team introduced a robust set of tools in the new CIS software that allow for much greater effectiveness in the management of the hazardous material inventory. These tools also provide an unprecedented opportunity to gather information about the inventory. This information can be used principally by the ES&H Subject Matter Experts (SMEs) to manage their programs more effectively. One example of this is the Emergency Planning Community Right-to-Know Toxic Release Inventory (TRI) reporting. The new CIS can provide information so effectively that the effort to prepare the TRI report is extensively reduced saving tens of thousands of dollars per year. Hazards assessments can also be done in a fraction of time saving resources. The Line can more effectively access their inventory and associated material safety data to minimize purchasing and waste disposal costs while reducing personnel potential exposure to hazardous chemicals. To take advantage of these

opportunities addition training needs to be provided to the Line and ES&H SMEs. Only when personnel see the tools available to them will they begin to take advantage of the innovation inherent in the new CIS.

10.2 Political/Regulatory/Legal Trends

Prior to 9/11/2001, hazardous material inventories were considered necessary for operations and regulatory reporting. However, post 9/11/2001, there has been a renewed interest in the importance of hazardous material inventories especially from the risk of hazardous material related terrorism. The concern of misused hazardous materials also is focused on drug and drug precursor materials with new regulations complicating the purchasing process of some materials. The DOE is especially concerned in the area of Hazards Assessments for Emergency Management programs and the health affects of hazardous materials such as beryllium.

10.3 Vulnerabilities/Failures

The success of hazardous material inventory management at SNL/CA depends on hundreds of personnel performing a variety of tasks to maintain the required accuracy of the information. This is an ongoing struggle because inventory management is not the primary activity of Line personnel. Hazardous Materials that are consumer commodities are routinely purchased from local stores and brought on-site. Since these items do not go through receiving, the Line is required to notify the HMM program for barcoding service. The Line frequently fails to notify the HMM program when they purchase these items, however, the containers are barcoded when they are found in the summer reconciliation. Ongoing effective training and monitoring of the data is required to maintain the desired data quality objectives of the hazardous material information.

10.4 Funding Projections

ES&H general funding projections for FY 2006 are for zero baseline increase and zero increase for inflation. As labor costs increase a shortfall is likely. The HMM program has no independent budget but is funded by a matrix of funding sources with primary funding coming from the Industrial Hygiene budget (~ 1.25 FTE). Significant secondary funding comes from the Waste Management Program (~ 0.75 FTE). Additional minor funding (0.1 FTE) is provided from the SNL/NM CIS Program for technical support.

No significant hardware or software purchases are required apart from minor desktop software upgrades for Calendar Year 2006. Travel and training costs are usually minimal at < $5,000 per year.

The Alameda County Department of Environmental Health, the site Certified Unified Program Agency (CUPA), annually bills Sandia ~$35,000 September 1. This fee is based on the amount of hazardous materials reported on the Business Plan submitted by SNL/CA in the preceding February. For the last several years, the funds for this bill have come from the Waste Management Service Center or the HMM portion of the Industrial Hygiene budget.

11 Goals and Objectives

11.1 Goals

The HMM Program is subject to internal goals and objectives established by Sandia's Integrated Enabling Services Strategic Management Unit and by SNL/CA's EMS Program.

The general goal of the Hazardous Materials Management Program is to efficiently collect and manage hazardous material information for our customers who include Line, regulators, DOE and ES&H programs to ensure compliance with regulations and to streamline customer business processes that require hazardous material information. For FY 2005, the HMM program established the following goals found in Table 5.

Table 5 EMS Objectives, Targets, and Actions Supporting HMM Program Elements

Objective	Target	2005 Action Items	2006 Action Items
Meet or exceed environmental requirements	Conduct annual program assessment.	Complete assessment by December 31, 2005	Complete assessment by November 30, 2006
	Create corrective action plan for all non-compliance issues	TBD	TBD
	Receive zero findings from DOE or external regulatory audits	Incorporate program assessment corrective actions into HMM Program	Incorporate program assessment corrective actions into HMM Program
	Receive no Notices of Violation from any external regulatory audit	Incorporate program assessment corrective actions into HMM Program	Incorporate program assessment corrective actions into HMM Program
Maintain or improve the Summer Reconciliation recovery rate	Achieve or exceed the Summer Reconciliation recovery rate (90%)	Complete the Summer reconciliation with recovery rate statistics	Complete the Summer reconciliation with recovery rate statistics
Reduce hazardous materials inventory	Reduce hazardous materials inventory by 10% from the 9/1/2004 baseline (3880 7 containers) by 10/1/2005	Complete Inventory Reduction Campaign by 10/1/2005	Complete Inventory Reduction Campaign as part of the site "Housekeeping" OP
Tighter integration with related IES database systems	Improve the integration of the CIS application with the WIMS and PHS systems	Meet with the WIMS & PHS development team on CIS integration	Meet with the WIMS & PHS development team on CIS integration
Increased ES&H and Line awareness of the CIS database as an effective tool for hazardous material management	Conduct a ES&H and Line training and awareness campaign	Publish TNT notices at least quarterly on CIS topics and provide CIS training as requested	Publish TNT notices at least quarterly on CIS topics and provide CIS training as requested
Update the CIS software to better meet customer requirements.	Conduct biweekly CIS Team conference calls.	Conduct biweekly CIS Team conference calls	Conduct monthly CIS Team conference calls

Appendix A

HMM Program Self Assessment Document Review Form

Document Type	Document Title	Review Complete	Changes Made
Operating Procedure	N/A	☐	☐ Yes ☐ No
		☐	☐ Yes ☐ No
PHS	PHS SNL0A00433-007 SNL/CA CIS Chemical Inventory	☐	☐ Yes ☐ No
Other Program Documents	Annual Program Report	☐	☐ Yes ☐ No
			☐ Yes ☐ No
Web Pages	HMM Web Pages	☐	☐ Yes ☐ No
		☐	☐ Yes ☐ No

Organization: 8516

Program: Hazardous Material Management

Calendar Year:

Signature: (Date)

Program Lead

Appendix B

Personnel Assignments

Table 6 HMM Program Assignments

Job Assignment	Personnel	Back-Up
Program Lead	Mark Brynildson	Randy Castillo/Susie Orth
Program Technologist	Susie Orth	None
Student Intern	Brooks Randolph	None
Student Intern	Brian Highfill	None